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10/816,718

04/02/2004

Georg Wittmann

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EXAMINER

LE, THAO X

ART UNIT

PAPER NUMBER

2814

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DELIVERY MODE

06/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/816,718

Applicant(s)

WITTMANN ET AL.

Examiner

Thao X. Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 17-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 31-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-30 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/25/07.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of species Group C claims 17-32 and 35-36 in the reply filed on 3/27/07 is acknowledged. However, claims 31-32 are species of Group D fig. 5 that does not read on species Group C of fig. 4; thus claims 31-32 are withdrawn from consideration and claims 17-30 and 35-36 are being considered on merits.

2. The Applicant's election with traverse on the ground(s) that there is no serious burden to examine all species and the claims have been considered on their merits.

This is not found persuasive because

a. Claims already considered: according to 37 CFR 1.142, if two or more independent and distinct inventions are claimed in a single application, the examiner in an Office action will require the applicant in the reply to that action to elect an invention. Such requirement will normally be made before any action; however, it may be made at any time before final action. The requirement for restriction is proper.

b. Serious burden: the species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species. In addition, it is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent

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to the other invention(s) (e.g., searching different classes/subclasses or electronic resources, or employing different search queries, a different field of search is shown, even though the two are classified together. The indicated different field of search must in fact be pertinent to the type of subject matter covered by the claims.

The requirement is still deemed proper and is therefore made FINAL.

### ***Specification***

3. Claims 20 and 24 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation "a cyclodextrines, a cyclic olefin copolymer" has broadened the scope of the claimed invention.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 17-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7074501 to Czeremuszkin et al. in view of US 5312689 to Dasher et al.

Regarding claims 17 and 30, Czeremuszkin discloses an organic electronic device that has one or more components 70 in fig. 8 that are sensitive to moisture or oxidizing agents, comprising: a flexible substrate 12, col. 13 line 15; a functional area 70, col. 13 line 43, on the substrate 12 comprising one or more active organic elements 70; a cap 22 encapsulating the organic functional area 70; and a first flexible multilayer packaging material 500, having a first active polymeric barrier layer 16 that binds moisture and oxidizing agents, and a ceramic barrier layer 14; wherein the first flexible multilayer packaging material 600 protects the functional area 70.

But Czeremuszkin does not disclose the organic electric device wherein the first active polymer barrier 16 includes a material comprising polymeric matrix with anhydrides, wherein the anhydrides are acid anhydrides of organic acids

However, Dasher discloses an active polymer barrier 22, col. 5 line 16, includes one or more material from the group consisting of a polymer matrix with anhydride and wherein the anhydrides are acid anhydrides of organic acids, col.

3 lines 30-35. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to replace the polymer matrix with anhydride teaching of Dasher with Czeremuszkin's polymer layer, because it would have prevented migrating matter by Dasher, col. 3 lines 24-28.

Regarding claim 18, Czeremuszkin discloses the organic electronic device wherein: the first flexible multilayer packaging material 500 is arranged between the functional area 70 and the flexible substrate 12, fig. 8.

Regarding claim 19, Czeremuszkin discloses the organic electronic device wherein the cap 22 comprises the first flexible multilayer packaging material 500.

Regarding claims 20, 24, Czeremuszkin discloses the organic electronic device wherein the cap comprises a second flexible multilayer packaging material 600 comprising: at least one ceramic barrier layer 24; and at least one active polymeric barrier layer 26 that binds the moisture and oxidizing agents.

But Czeremuszkin does not disclose the at least one active polymeric barrier layer of the second flexible multilayer packaging material includes one or more materials from the group consisting of a polymeric matrix with dispersed cyclodextrines and a polymeric matrix with anhydrides.

However, Dasher discloses an active polymer barrier 22, col. 5 line 16, includes one or more material from the group consisting of a polymer matrix with anhydride. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to replace the polymer matrix with anhydride

teaching of Dasher with Czeremuszkin's polymer layer, because it would have prevented migrating matter by Dasher, col. 3 lines 24-28.

Regarding claims 21, 22, Czeremuszkin discloses the organic electronic device wherein: the cap 22 includes one or more materials from the group consisting of polymers, metals and glass, fig. 8, wherein the flexible substrate 12 comprises a polymer.

Regarding claim 23, Czeremuszkin discloses the organic electronic device wherein the cap 22 comprises a second flexible multilayer packaging material 600 comprising: at least one active polymeric barrier layer 26 that binds the moisture and oxidizing agents; and at least one ceramic barrier layer 24, fig. 8.

Regarding claim 25, Czeremuszkin discloses the organic electronic device wherein: the flexible substrate 110 includes a second active polymeric barrier layer 14, fig. 8.

Regarding claim 26, Czeremuszkin discloses the organic electronic device wherein the flexible substrate 12 comprises an assembly of active polymeric barrier layers 16 and ceramic barrier layers 14.

Regarding claim 28, Czeremuszkin disclose the organic electronic device wherein the one or more active organic elements comprises at least one stack having a first electrically conductive layer 66, an organic functional layer 62 on the first conductive layer 66 and a second electrically conductive layer 60 on the organic functional layer 62; and the organic functional layer comprises at least one organic electroluminescent layer, col. 13 line 23-31.

Regarding claim 29, Czeremuszkina discloses the organic electronic device wherein the one or more active organic elements 70 includes at least one stack comprising a first electrically conductive layer 66, an organic functional layer 62 on the first conductive layer 66 and a second electrically conductive layer 60 on the organic functional layer 62; and the functional area 70 comprises at least one organic radiation detecting layer forming an organic radiation sensor 64, column 13 lines 23-31.

7. Claim 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6624568 to Silvernail in view of US 5587233 to König et al. or US 6333103 to Ishii et al.

Regarding claims 33 and 35, Silvernail discloses an organic electronic device in fig. 5 that has one or more components in fig. 1 that are sensitive to moisture or oxidizing agents, comprising: a flexible substrate 110; a functional area 140 on the substrate 110 comprising one or more active organic elements 140; a cap 151d encapsulating the organic functional area 140; and a first flexible multilayer packaging material 150 that binds moisture and oxidizing agents via chem.- or physisorption, and a ceramic barrier layer 152a; wherein the first flexible multilayer packaging material 120 protects the functional area 140; and the substrate 110 comprises an assembly of at least one active polymer barrier layer 121c and at least two adjacent first and second ceramic barrier layer 122a/122b the same composition (aluminum oxide).

But, Czeremuszkina does not disclose the device wherein the first and second ceramic barrier layers having the same composition but exhibiting different microstructures or  $\alpha\text{-Al}_2\text{O}_3$  and  $\gamma\text{-Al}_2\text{O}_3$ .



However, König discloses a ceramic layer consists of  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> and  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>, col. 2 line 47, and Ishii also discloses a ceramic layer comprises a mixture of  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> and  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>, col. 8 line 24-27. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to replace the  $\alpha$ -Al<sub>2</sub>O<sub>3</sub> and  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> teaching of either König or Ishii with the ceramic layer of Silvernail, because it would have improved the wear resistance and durability as taught by Ishii in col. 1 lines 4-7 and König in col. 2 lines 32-34.

8. Claims 17 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7074501 to Czeremuszkin et al. in view of US 4576995 to Nakabayashi et al.

Regarding claims 17 and 36, Czeremuszkin discloses an organic electronic device that has one or more components 70 in fig. 8 that are sensitive to moisture or oxidizing agents, comprising: a flexible substrate 12, col. 13 line 15; a functional area 70, col. 13 line 43, on the substrate 12 comprising one or more active organic elements 70; a cap 22 encapsulating the organic functional area 70; and a first flexible multilayer packaging material 500, having a first active polymeric barrier layer 16 that binds moisture and oxidizing agents, and a ceramic barrier layer 14; wherein the first flexible multilayer packaging material 600 protects the functional area 70.

But Czeremuszkin does not disclose the organic electric device wherein the first active polymer barrier 16 includes a material comprising polystyrene with anhydrides.

However, Nakabayashi discloses an active polymer barrier comprises polystyrene with anhydride, see claims 1-3. At the time the invention was made;

it would have been obvious to one of ordinary skill in the art to replace the polymer teaching of Nakabayashi with Czeremuszkin's polymer layer, because it would have provided a laminate with strong resistance to delamination and good adhesive property as taught by Nakabayashi, abstract.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 17-30 and 35 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed 12/13/06 have been fully considered but they are not persuasive.

c. The combination with Dasher is improper because of lack of motivation. The motivation was clearly stated in the above and previous Office action. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

a. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only

knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

b. With respect to claim 35, both Konig and Ishii disclose an aluminum oxide having different microstructure as discussed in the above rejection; thus, replacing aluminum oxide of Czeremuszkin with the aluminum oxide of Konig or Ishii would read on the claimed limitation.

### ***Conclusion***

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

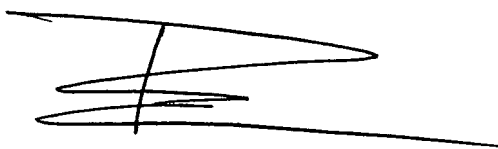
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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

01 June 2007



THAO X. LE  
PRIMARY PATENT EXAMINER